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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,718	02/26/2002	Mazen K. Alsliety	GP-302119 (2760/59)	3969

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EXAMINER

CHEN, SHIH CHAO

ART UNIT	PAPER NUMBER
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2821

DATE MAILED: 03/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

1/08

Office Action Summary	Application No. 10/083,718	Applicant(s) ALSLIETY, MAZEN K.	
	Examiner Shih-Chao Chen	Art Unit 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 01 March 2004.

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-20 is/are pending in the application.

 4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-20 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

 a) ☐ All b) ☐ Some * c) ☐ None of:

 1. ☐ Certified copies of the priority documents have been received.

 2. ☐ Certified copies of the priority documents have been received in Application No. _____.

 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-8 and 13-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Hegendoerfer (U.S. Patent No. 6,326,922).

Regarding claim 1, Hegendoerfer teaches in figures 1 and 4-6 an antenna [100] consisting essentially of: a substrate [130] of dielectric material defining a longitudinal axis (See FIG. 4) of the substrate [130] and a surface of the substrate [130]; and a plurality of electrically conductive elements [118, 122, 102, 104, 106, 107, 108, 109] disposed on the surface of the substrate [130] to form a Yagi-Uda dipole array (See FIG. 4).

Regarding claim 2, Hegendoerfer teaches in figures 1 and 4-6 the antenna [100] wherein the Yagi-Uda dipole array includes a driven element [122] and one or more parasitic elements [118, 102, 104, 106, 107, 108, 109], and electromagnetic energy is

coupled from the driven element [122] to the parasitic elements through space and by surface waves in the substrate [130].

Regarding claim 3, Hegendoerfer teaches in figures 1 and 4-6 the antenna [100] wherein the driven element [122] comprises a dipole having a first and a second dipole element [112, 114] extending co-linearly in opposite directions from and perpendicular to the substrate axis, the dipole elements [112, 114] having adjacent ends spaced apart at equal distances on either side of the substrate axis (See FIG. 4).

Regarding claim 4, Hegendoerfer teaches in figures 1 and 4-6 the antenna [100] wherein the parasitic elements [118, 102, 104, 106, 107, 108, 109] include a reflector (118) and one or more directors [102, 104, 106, 107, 108, 109].

Regarding claim 5, Hegendoerfer teaches in figures 1 and 4-6 the antenna [100] comprising six or less directors [102, 104, 106, 107, 108, 109].

Regarding claim 6, Hegendoerfer teaches in figures 1 and 4-6 the antenna [100] comprising six directors (102, 104, 106, 107, 108, 109).

Regarding claim 7, Hegendoerfer teaches in figures 1 and 4-6 the antenna [100] wherein the reflector [118] is disposed on one side of the driven element [122] and the directors [102, 104, 106, 107, 108, 109] are disposed on the other side of the driven element [122].

Regarding claim 8, Hegendoerfer teaches in figures 1 and 4-8 the antenna [100]: wherein the driven element [122] comprises a dipole having a first and a second dipole element [112, 114] extending co-linearly in opposite directions from and perpendicular to the substrate axis, the dipole elements [112, 114] having adjacent ends spaced apart

at equal distances on either side of the substrate axis (See FIG. 4); and wherein the reflector [118] and directors [102, 104, 106, 107, 108, 109] extend linearly across, are centered upon, and oriented perpendicular to the substrate axis (See FIG. 4).

Regarding claim 13, Hegendoerfer teaches in figures 1 and 4-6 an apparatus consisting essentially of: an antenna support [132]; and an antenna [100] mounted on the antenna support [132], the antenna [100] comprising: a substrate [130] of dielectric material defining a longitudinal axis of the substrate (See FIG. 4) and a surface of the substrate [130]; and an plurality of electrically conductive elements [118, 122, 110] disposed on the surface of the substrate [130] to form a Yagi-Uda dipole array.

Regarding claim 14, Hegendoerfer teaches in figures 1 and 4-6 the apparatus wherein the Yagi-Uda dipole array of the antenna [100] includes a driven element [122] and one or more parasitic elements [102, 104, 106, 107, 108, 109], and electromagnetic energy is coupled from the driven element [122] to the parasitic element [102] through space and by surface waves in the substrate [130].

Regarding claim 15, Hegendoerfer teaches in figures 1 and 4-8 the apparatus wherein the antenna support [132] is comprised of a dielectric material and is the substrate.

Regarding claim 16, Hegendoerfer teaches in figures 1 and 4-6 the apparatus wherein the apparatus is an electronic device [9] for communicating through the antenna [100] (See FIG. 1).

Regarding claim 17, Hegendoerfer teaches in figures 1 and 4-6 the apparatus wherein the antenna support [132] is a printed circuit board of the apparatus.

Regarding claim 18, Hegendoerfer teaches in figures 1 and 4-6 the apparatus wherein the apparatus includes a PCMCIA card (i.e. a PCMCIA card in computer; See FIG. 1) and the PCMCIA card includes the antenna support [132].

Regarding claim 19, Hegendoerfer teaches in figures 1 and 4-6 the apparatus wherein the apparatus comprises a vehicle (See FIG. 1) having a structure forming the antenna support [132].

Regarding claim 20, Hegendoerfer teaches in figures 1 and 4-6 the apparatus wherein the antenna support [132] is an inside surface of a body panel of the vehicle (See FIG. 1).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hegendoerfer (Cited above).

Hegendoerfer discloses the claimed invention except for the length of the reflector is in the range of 1.08 to 1.3 times the length spanned between of the outer ends of the first and second dipole elements; the length of the director is in the range of

0.8 to 0.95 times the length spanned between of the outer ends of the first and second dipole elements; the distance between the center of the dipole and the center of the reflector is about 0.25 times free space wavelength; the distance between the center of the dipole and the center of the closest director and the spacing between adjacent directors is about 0.325 times free-space wavelength; the dipole has an overall length of about 0.944 inches, with the inner ends spaced apart a distance of about 0.078 inches; the reflector has a length of about 1.02 inches and has a center spaced about 0.51 inches from the dipole center; the directors have a length of about 0.767 inches and have centers spaced from one another at a distance of about 0.614 inches, the director adjacent the dipole being spaced about 0.614 inches from the center of the dipole; and one or more of the dipole, directors and reflector have a width extending parallel to the substrate axis of about 0.047 inches.

It would have been an obvious matter of design choice to have the dipole, directors and reflector each respectively define the range of length and the overall length, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level ordinary skill in the art.

Response to Arguments

6. Applicant's arguments filed May 12, 2003 have been fully considered but they are not persuasive.

Applicant argues that "Hegendoerfer requires the LNA, in addition to dipole components, it cannot anticipated independent claims 1 or 13, or any claim depending

therefrom". Examiner respectfully disagrees. Because the transitional phrase "consisting essentially of" limits the scope of a claim to the specified materials or steps.

The court case [*In re Herz*, 537F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976)] clearly states that the transitional phrase "consisting essentially of" only applies to the specified materials or steps. However, the claims 1 and 13 do not specify any particular materials or steps.

In addition, the Hegendoerfer's reference clearly shows that the antenna is separate from the LNA (See Figure 3). LNA is an amplifier for merely lowering noise as additional improvement. His antenna does not require LNA for operation as alleged by applicant. His antenna consists of essential parts such as a substrate; a plurality of electrically conductive elements and a Yagi-Uda dipole array, which renders the claimed invention conventional.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shih-Chao Chen whose telephone number is (571) 272-1819. The examiner can normally be reached on Monday-Friday from 7 AM to 4:30 PM, First Fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shih-Chao Chen
Shih-Chao Chen
Examiner
Art Unit 2821

SXC
March 16, 2004